APPENDIX I

REFERENCES USED TO DEVELOP THE TRAMAN

- Bernstein, Leonard, Martin Schacter, Alan Winkler, and Stanley Wolfe, *Concepts and Challenges in Physical Science*, Cebco Standard Publishing, Fairfield, N.J., 1978.
- Construction Mechanics 3 & 2, NAVEDTRA 10644-G1, Naval Education and Training Program Management Support Activity, Pensacola, Fla., 1988.
- Eby, Denise, and Robert B. Horton, *Physical Science*, Macmillan Publishing Company, New York, 1988.
- Gill, Paul W., James H. Smith, Jr., and Eugene J. Ziurys, *Internal Combustion Engines*, 4th ed., The George Banta Company Inc., Menasha, Wis., 1954.
- Harris, Norman C., and Edwin M. Hemmerling, *Introductory Applied Physics*, McGraw-Hill Book Company, Inc., New York, 1955.
- Heimler, Charles H., and Jack S. Price, *Focus on Physical Science*, Charles E. Merrill Publishing Company, Columbus, Ohio, 1984.

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